UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/017,743	02/03/1998	ALESSANDRO SETTE	018623-00805	8772

7590 08/28/2002

STERNE KESSLER GOLDSTEIN & FOX PLLC
1100 NEW YORK AVENUE NW
SUITE 600
WASHINGTON, DC 20005-3934

EXAMINER	
DIBRINO, MARIANNE NMN	
ART UNIT	**PAPER NUMBER**
1644	39

DATE MAILED: 08/28/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.	Applicant(s)
09/017,743	Sette et al
Examiner	**Art Unit**
Marianne DiBrino	1644

-- Th MAILING DATE of this communication appears on th cover she t with the correspond nc address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on *May 14, 2002*

2a) ☒ This action is **FINAL.** 2b) ☐ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *71-78* is/are pending in the applica

4a) Of the above, claim(s) *73 and 78* is/are withdrawn from considera

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) *71, 72, and 74-77* is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claims _____ are subject to restriction and/or election requirem

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) ☐ All b) ☐ Some* c) ☐ None of:

1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

*See the attached detailed Office action for a list of the certified copies not received.

14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

a) ☐ The translation of the foreign language provisional application has been received.

15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s). 27
4) ☐ Interview Summary (PTO-413) Paper No(s). _____
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

DETAILED ACTION

1. The request filed on 5/14/02 (Paper No. 33) for a Continued Prosecution Application (CPA) under 37 CFR 1.53(d) based on parent Application No. 09/017,743 is acceptable and a CPA has been established. An action on the CPA follows.

2. Applicant's amendment filed 5/14/02 (Paper No. 34) is acknowledged and has been entered.

Newly submitted claim 78 is directed to an invention that is independent or distinct from the invention originally claimed invention for the following reasons:

Newly submitted claim 78 is drawn to a method of inducing a CTL response in a human in need of treatment or prevention of an infection or cancer, comprising administering an isolated nucleic acid molecule comprising a nucleotide sequence encoding a peptide consisting of a sequence selected from the group consisting of SEQ ID NO: [7]1-76, whereas the instant invention is drawn to an isolated nucleic acid molecule comprising a nucleotide sequence encoding at least a first discrete peptide having the limitations recited in the instant claims.

The isolated nucleic acid molecule of the instant invention is classified in Class 536, subclass 23.1, whereas the method of the invention of newly submitted claim 78 is classified in class 514, subclass 44.

The isolated nucleic acid molecule of the instant invention and the method of the invention of newly submitted claim 78 are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product (M.P.E.P. § 806.05(h)). In the instant case, the product as claimed can be used in a materially different process such as immunopurification procedures or detection assays. Therefore, they are patentably distinct.

Because these inventions are distinct for the reasons given above and the search required for each invention is different and the said inventions have acquired a separate status in the art as shown by their different classification and divergent subject matter, restriction for examination purposes as indicated is proper.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claim 78 is hereby withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP §821.03.

Non-elected claims 24-26 are held to be withdrawn from further consideration under 37 CFR 1.142(b)

Applicant is reminded that claim 73 (reads on non-elected species) remains withdrawn from further consideration by the Examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention as acknowledged in the parent application Serial No. 09/017,743.

Claims 71, 72 and 74-77 are pending and are presently being examined.

3. The following is a quotation of the first paragraph of 35 U.S.C. § 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 71, 72 and 74-77 stand rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention.

This rejection is a new matter rejection.

The added material which is not supported by the original disclosure is as follows:

a. In claim 71, line 2, "a first discrete peptide consisting of 8-11 amino acid residues" which has the motif recited in the instant claim, and in claims 71, 74 and 75, respectively, "wherein said encoded peptide binds at least two", "at least three", or "more than three" of the HLA molecules recited in instant claim 71.

b. In claim 77 at lines 2 and 3, wherein the encoded first peptide is derived from an "HPV" antigen or a "malarial" antigen. Keep.

c. In claim 71, at the last line, "at IC50 values less than 500 nm".

Applicant's arguments in the amendment filed 3/2/01 have been fully considered but are not persuasive.

It is Applicant's position on page 3 of the said amendment that support for "peptide consisting of 8-11 amino acids" is found on page 3 at lines 23-26 of the specification, which discloses "The term motif refers to the pattern of residues in a peptide of defined length, usually about 8 to about 11 amino acids", and further that Applicant believes that 8-11 is equivalent to "about" 9-11 residues. Applicant also points (pages 3 and 4 of said amendment) to support for this and for other limitations in the claims in two applications, 08/278,634 and 08/334,824, (the

Examiner believes that Applicant means 08/344,824) incorporated by reference in the instant application.

It is the Examiner's position that the motifs on page 4 at lines 23-27 are for peptides of 9 or 10 amino acid residues in length. The motifs for peptides of 8 or 11 amino acid residues in length are not disclosed because (on page 3, at lines 23-26) the specification discloses that the term "motif" refers to the pattern of residues in a peptide of defined length, usually about 8 to about 11 amino acid residues, which is recognized by a particular MHC allele. In addition, the specification discloses that "an immunogenic peptide is a peptide which comprises an allele-specific motif" (page 3 at lines 13-14 of the specification). However, the said disclosure along with the disclosure of "immunogenic peptides of about 9 to 10 residues in length and comprising conserved residues at certain positions such as a proline at position 2 and an aromatic residue or a hydrophobic residue at the carboxy terminus (disclosed on page 2 at lines 23-26 of the specification) does not provide support because the actual motifs disclosed in the specification on page 4 at lines 25-27 are motifs for peptides of 9 or 10 amino acid residues in length, and the specification does not disclose an 8-mer or 11-mer motif with P at position 2 and with L, I, V, F, M, W, A or Y at position 8 or 11, respectively.

It is the Examiner's further position that application serial no. 08/344,824 discloses (on page 3 at lines 11-14) that a conserved residue is a conserved amino acid occupying a particular position in a peptide motif and that one or two conserved residues within a peptide of defined length defines a motif for an immunogenic peptide and Table 6 on page 33 discloses Position 2 Pro and certain subsets of, but not all of, the C-terminal hydrophobic residues (and excluding the amino acid residue Ala, or "A") recited in the instant claims for certain HLA alleles (for example, LIVYFW for HLA-B7, LIV for HLA-B14 and for HLA-B51, LIVMYFW for HLA-B53 and HLA-Cw6). Therefore, the motif recited in the instant claims for peptides of 8 or 11 amino acid residues in length is not supported by 08/344,824, nor is binding of peptides having the said motif to the HLA molecules recited in the instant claim 71. Because these said limitations are not supported, "wherein said encoded peptide binds at least two", "at least three", or "more than three" of the HLA molecules recited in instant claim 71 is also not supported.

It is also the Examiner's position that the 08/278,634 application does not disclose the motif recited in the instant claims for peptides which are 8 or 11 amino acid residues in length for the same reasons that the instant application does not and because Table 6 in the 08/278,634 application has the same deficiencies as Table 6 of the 08/344,824 application discussed above.

With regard to the limitation "at IC_{50} values less than 500 nm", the said limitation is not supported by the originally filed disclosure because Applicant points to support for the said limitation in Example 8 of application serial no. 08/334,824. Application serial no. 08/344,824 discloses the binding of 9-mer and 10-mer supermotif bearing peptides to HLA-B*0701, HLA-B*3501, HLA-B*3502, HLA-B*3503 and HLA-B*5401 and that immunogenicity in general is

correlated with binding affinity in that peptides which bind MHC with affinities of 500nM or less show greater immunogenicity. Example 8 does not disclose binding at less than 500 nM for 8-mer or 11-mer peptides to the aforementioned HLA-B alleles, nor for any length peptide binding to the HLA-B alleles recited in instant claim 71 that are not disclosed in Example 8.

5. Claims 71, 72 and 74-76 stand rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected to make and/or use the invention.

The specification does not disclose how to make and/or use an isolated nucleic acid molecule, comprising a nucleic acid molecule encoding a peptide, said immunogenic peptide consisting of 8-11 amino acid residues with the motif recited in the instant claims, or a nucleic acid molecule encoding a heteropolymer comprising the said immunogenic peptide and a second peptide that is a CTL epitope, said first peptide binding to one or more of the HLA molecules recited in instant claim 71 at IC_{50} values less than 500nM. The specification has not enabled the breadth of the claimed invention in view of the teachings of the specification because the claims encompass nucleic acid molecules which encode non-naturally occurring peptides and peptide containing heteropolymers which may not bind HLA, and it is unpredictable what peptides encompassed by the claimed invention would meet the functional parameters recited in the claims..

For purposes of examination, the instant claims are given their broadest reasonable interpretation. Therefore, the said nucleic acid molecule can encode a non-naturally occurring peptide and can encode more than the nucleotide sequence encoding the peptide. Such additional encoded amino acid residues could prevent complex formation between said peptides and the HLA molecules. For instance, the length of the peptide is important for binding to HLA (along with the presence of anchor or motif amino acid residues present within the peptide). The peptides that bind to class I molecules have a predominant length. A primary factor for this is that amino acid residues at the amino- and carboxy-termini of peptides binding to class I molecules interact with conserved amino acid residues in pockets ("A", "F") located at opposite ends of the binding groove of the class I molecule, giving rise to a common orientation of the peptides in the binding site (Englehard at page 14, column 1, lines 16-27). Thus, the amino acid residues at the peptides' termini make a network of hydrogen bonds with conserved residues on the sides and bottom of the peptide binding groove of class I molecules. These interactions are important for holding the peptides in the binding groove and for stabilizing the complex (Guo, et al at page 366, column 1, lines 1-10). "...the preferred length of the peptide) is determined by the minimum amount of peptide required to span the center of the binding site and optimize the interactions at the ends" (Englehard at page 14, column 1, lines 23-27). The minimum amount of peptide required to span the binding groove and make favorable contacts with their N- and C-termini may be dependent upon the sequence of the peptide itself since different amino acid residues have different physicochemical properties, and

may be dependent upon the identity of the additional amino acids, since these residues may make a negative contribution to binding. Accordingly, there is a high level of unpredictability in designing/selecting longer sequences that would still maintain binding function, and Applicant does not provide direction or guidance to do so.

In addition, it is unpredictable that said peptide would bind to HLA at an IC_{50} value less than 500 nM. Although experimental ranking schemes are available for predicting relative binding strengths of some HLA binding nonapeptides, and assays are available to test the binding of peptides to HLA, an undue amount of experimentation would be involved in determining peptides from the many possibilities that would be capable of binding to the HLA molecules. Applicant has made reference to Application serial no. 08/344, 824 for the disclosure that immunogenicity in general is correlated with binding affinity in that peptides which bind MHC with affinities of 500nM or less show greater immunogenicity. Ochoa-Garay et al (Molec. Immunol. 34: 273-281, 1997) teach that "In summary, the results in this report indicate that the immunogenicity of a peptide cannot always be predicted from... the presence of class I binding motifs" (especially page 279, last sentence and continuing onto page 280). Further, with regard to instant claim 77, it would take undue experimentation to determine which peptides from the recited viral antigens would bind to one or more of the recited HLA molecules, and at an IC_{50} value less than 500 nM.

There is insufficient guidance in the specification as to how to practice the method of the instant invention. There is no disclosure in the specification as to what additional amino acid residues are permissive for binding of the peptide to HLA molecules and at IC_{50} values less than 500 nM. Undue experimentation would be required of one skilled in the art to practice the instant invention using the teaching of the specification alone. See In re Wands 8 USPQ2d 1400 (CAFC 1988).

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 71, 72 and 74-76 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

a. Claims 71 and 74-76 are indefinite in the recitation of "discrete" because it is not clear what this means or encompasses.

b. Claim 72 recites "the C-terminal amino acid". It is suggested that Applicant amend said claims to recite "the C-terminal amino acid residue".

c. Claim 71 is indefinite in the recitation of "nm" in line 6. It is suggested that Applicant

amend said claim to recite "nM".

d. Claim 72 is indefinite in the recitation of "The nucleic acid molecule" "wherein the C-terminal amino acid is" because it is not clear what is meant. A nucleic acid molecule does not consist of amino acid residues.

e. Claim 71 recites "an nucleotide sequence" in line 1. It is suggested that Applicant amend said claim to recite "a nucleotide sequence".

8. The invention is drawn to an isolated nucleic acid molecule comprising a nucleotide sequence encoding a peptide (or a peptide and a CTL epitope peptide) consisting of 8-11 amino acid residues with the motif recited in the instant claims, wherein the peptide is associated with binding to multiple HLA molcules recited in instant claim 71. With regard to application of prior art, the filing date of the instant claims is that of the instant application, i.e., 2/3/98, because the scope of the claimed invention is not disclosed in parent applications 08/590,298, 08/753,615, 08/590,298 and 08/452,843. The parent applications do not support the claimed method; in minimis, the parent applications do not disclose a nucleic acid comprising a nucleotide sequence encoding a discrete peptide consisting of 8-11 amino acid residues with the motif recited in the instant claims, wherein the encoded peptide binds at least two, or at least three or more than three of the HLA molecules recited in the instant claims at IC_{50} values less than 500nM.

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103© and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

10. Claims 71, 72 and 74-77 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Sidney et al (J. Immunol. Vol. 157, 1996, pages 3480-3490) in view of WO 93/03764.

Sidney et al teach an 'anchor fixed' nonamer peptide with the sequence FPIPSSWAF that was altered at position 1 in the base peptide IPIPSSWAF (HBV env 313), said base peptide being derived from the hepatitis B virus envelope protein (especially Table VI and Discussion section on pages 4388-3489). Sidney et al teach that the peptide FPIPSSWAF binds an HLA molecule at IC_{50} values ranging from 105 nM to 1.2 nM and binds with higher affinity than the base peptide IPIPSSWAF (especially Table VI). Said peptide has Pro at position 2 and Phe at position 9 and is associated with binding to multiple HLA molecules, four of which are HLA molecules recited in instant claim 71 (especially Table VI of the reference).

Sidney et al do not teach an isolated nucleic acid encoding a peptide comprising FPIPSSWAF, nor a nucleic acid molecule encoding the said peptide and another peptide which is a CTL epitope.

WO 93/03764 teaches peptides from hepatitis B virus (HBV) that stimulate CTL are useful in diagnostic methods (especially Abstract and page 23, lines 25-31). WO 93/03764 further teaches that peptides of the invention can be synthesized chemically or by recombinant DNA technology wherein a nucleotide sequence which encodes said peptide, or a heteropolymer comprising said peptide in fusion with another peptide that is a CTL epitope or a Th epitope, is inserted into an expression vector, transformed or transfected into an appropriate host cell and cultivated under conditions suitable for expression (especially page 22, lines 6-33, page 23, lines 3-24 and page 31, lines 13-23). WO 93/03764 teaches a DNA construct encoding a peptide (especially claim 59) which is used for the expression of said peptide.

It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to have made an isolated nucleic acid molecule encoding the peptide FPIPSSWAF of Sidney et al because Sidney et al teach said HBV-derived peptide is immunogenic and WO 93/03764 teaches nucleic acids encoding immunogenic HBV-derived peptides. It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to have made an isolated nucleic acid molecule encoding the peptide FPIPSSWAF of Sidney and further encoding a peptide of 8-11 amino acid residues in length which is a CTL epitope because WO 93/03764 further teaches that peptides of the invention can be synthesized chemically or by recombinant DNA technology, wherein a nucleotide sequence which encodes a heteropolymer comprising said peptide is in fusion with another peptide that is a CTL epitope.

One of ordinary skill in the art at the time the invention was made would have been motivated to do this in order to produce the peptide FPIPSSWAF of Sidney et al, or larger peptides comprising said peptide, for use in diagnostic assays as taught by WO 93/03764 or to stimulate CTL which could be used in diagnostic assays. Instant claim 76 is included in this

rejection because the skilled artisan at the time the invention was made would have been aware that a CTL epitope was about 8-11 amino acid residues in length.

Applicant's arguments in the amendment filed 3/2/01 have been fully considered but are not persuasive.

With regard to Applicant's comments on page 6 of the said amendment under "The Rejections Under 35 U.S.C. 103" , Applicant argues that the instant claims have priority to 1994. However, it is the Examiner's position that the instant claims have priority only to the filing date of the instant application, i.e., to 2/3/98, for the reasons enunciated in items #3 and #7 of this Office Action supra.

11. Claims 71, 72 and 74-77 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Rammensee et al (Immunogenetics, Vol. 41, pages 178-228, 1995) in view of EP 0346022A1.

Rammensee et al teach a peptide with the sequence TPGPGVRYPL which is a T cell epitope corresponding to amino acid residues 128-137 of HIV nef viral protein and which binds to HLA-B7 (especially page 197, last sequence in Table 3).

Rammensee et al do not teach an isolated nucleic acid encoding a peptide comprising TPGPGVRYPL, nor a nucleic acid molecule encoding the said peptide and another peptide which is a CTL epitope. Rammensee et al also teach that peptides that bind to class I molecules that are 9 or 10 amino acid residues in length.

EP 0346022A1 teaches peptides from HIV viral proteins which bind HLA class I molecules and which can be used for diagnostic purposes (especially Abstract). EP 0346022A1 further teaches that the vaccine may comprise more than one peptide that can stimulate a CTL response, the said peptides can be used to construct synthetic or fusion proteins that contain the relevant peptide epitopes, and the peptide or fusion protein can be made using known DNA techniques (especially page 2 at lines 39-46). EP 0346022A1 teaches CTL epitopes in peptides of up to 15 amino acid residues in length (especially page 2 at lines 23-25).

It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to have made an isolated nucleic acid molecule encoding the peptide TPGPGVRYPL of Rammensee et al alone or in a fusion protein with another CTL epitope, or to make an isolated nucleic acid molecule encoding a fusion protein of the peptide with another CTL epitope peptide, because Rammensee et al teach that the said peptide is a CTL epitope from HIV nef viral protein and EP 0346022A1 teaches that the said HIV-derived peptides that are CTL epitopes are useful for diagnostic purposes, and further that the said peptides or fusion protein can be made using known DNA techniques.

One of ordinary skill in the art at the time the invention was made would have been motivated to do this in order to produce the peptide TPGPGVRYPL taught by Rammensee et al, or larger peptides comprising said peptide and another T cell epitope, for diagnostic purposes as taught by EP 0346022A1,or to stimulate CTL which could be used in diagnostic assays. Instant claim 76 is included in this rejection because the skilled artisan at the time the invention was made would have been aware that a CTL epitope was about 8-11 amino acid residues in length. In addition, because the peptide taught by Rammensee et al binds to HLA-B7 and has anchor amino acid residues at anchor positions (bolded in Table 3 of Rammensee et al) and the said peptide binds to HLA-B7, it is expected that the said peptide would bind to several if not all of the HLA-B7 allelic subtypes listed in instant claim 71 at, or at less than, the intermediate affinity value of IC_{50} 500nM recited in instant claim 71.

12. No claim is allowed.

13. All claims are drawn to the same invention claimed in the parent application prior to the filing of this Continued Prosecution Application under 37 CFR 1.53(d) and could have been finally rejected on the grounds and art of record in the next Office action. Accordingly, **THIS ACTION IS MADE FINAL** even though it is a first action after the filing under 37 CFR 1.53(d). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marianne DiBrino whose telephone number is (703) 308-0061. The examiner can normally be reached Monday through Friday from 8:30 am to 6:00 pm. A message may be left on the examiner's voice mail service. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christina Chan can be reached on (703) 308-3973. Any inquiry of a general nature or relating to the status of this application should be directed to the Technology Center 1600 receptionist whose telephone number is (703) 308-0196.

Papers related to this application may be submitted to Technology Center 1600 by facsimile transmission. Papers should be faxed to Technology Center 1600 via the PTO Fax Center located in Crystal Mall 1. The faxing of such papers must conform with the notice published in the Official Gazette, 1096 OG 30 (November 15, 1989). The CM1 Fax Center telephone number is (703) 305-3014.

Marianne DiBrino, Ph.D.
Patent Examiner
Group 1640
Technology Center 1600
July 15, 2002

RONALD B. SCHWADRON
PRIMARY EXAMINER
GROUP ~~1800~~ 1600